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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/847,050	04/30/2001	Max Friedheim	1776-010	5202

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JOSEPH R. EVANNS
EVANNS & WALSH
119 NORTH SAN VICENTE BLVD., #206
BEVERLY HILLS, CA 90211

EXAMINER

PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/847,050

Applicant(s)

FRIEDHEIM, MAX

Examiner

Sang Y. Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 24-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18, 22, 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 1-17, 19-21, 24-28 and 31-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-11, 13-17, 19-21, 24-28 and 31-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friedheim (US 5,471,556) or Friedheim (US 4,414,037) in view of Kishi et al (US 5,149,399) or Gamell (US 3,800,528).

Friedheim '556 or Friedheim '037 discloses a superheated vapor generator made of aluminum having a vapor generating space with a surface having grooves or etched/perforated surface, respectively. However, neither Friedheim '556 nor Friedheim '037 shows having a thermally conductive thermal element in the vapor generation space.

Kishi shows a vapor generating space within which a thermally conductive elements such as the thermally conductive elements made of ceramic materials or stainless steel are disposed in the vapor generating space and contacting its surface therein to enhance the speed of the heating of the liquid. Gamell also shows a vapor or steam generating heat boiler with heat absorbing and thermally conductive bodies attached within the boiler. Gamell further shows that the outer shell of the heating vessel and the thermal bodies are made of the metals.

In view of Kishi or Gamell, it would have been obvious to one of ordinary skill in the art to adapt Friedheim '556 or Friedheim '037 with thermally conductive thermal element within the vapor generating chamber to further increase the heating and vaporization of the fluid.

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With respect to claim 8, it would have been obvious to one of ordinary skill in the art to use stainless steel as the vapor generation surface and the aluminum as the thermal element since Friedheim '556 and '037 allows one of ordinary skill in the art to use the metal or other materials, including stainless steel, that are suitable to generate a good thermal conductivity and Kishi and Gamell also leave it to one of ordinary skill in the art to use the thermal bodies that are made of materials, including aluminum, that have good thermal conductivity.

With respect to claim 25, it would have been obvious to one of ordinary skill in the art to provide the thermal element in cylindrical configuration or any other shapes as long as such thermal elements provide the necessary conductivity to enhance the speed of heating and vaporizing the fluid.

With respect to claims 41-43, it would have been obvious to one of ordinary skill in the art to insert the thermal elements before assembling the vapor generator parts or after assembling the vapor generator parts since such would depend on the convenience of assembling process.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over as applied to claim 1 above, and further in view of Sloan et al (US 6,299,076).

Friedheim '556 or Friedheim '037 in view of Kishi or Gamell disclose the vapor generator claimed except the interior surface being smooth.

Sloan shows a vapor generator having an interior surface being smooth. In view of Sloan, it would have been obvious to one of ordinary skill in the art to adapt Friedheim '556 or Friedheim '037, as modified by Kishi et al or Gamell, with the interior surface having a smooth surface as an alternative surface form to also produce the steam.

Allowable Subject Matter

4. Claims 18, 22, 29 and 30 are allowed.

Response to Arguments

5. Applicant's arguments filed 8/1/05 have been fully considered but they are not persuasive. The applicant argues there is no motivation and it would not have been obvious to combine the Kishi reference which shows a low temperature urine vaporizer with the applicant's super heated generators. While Kishi shows the vaporizer that is used in different applications than the applicant's, Kishi clearly teaches that having the thermally conductive elements disposed in the vapor generating device enhances the vaporizing process by reducing the vaporization time as well as improving the heat transmission to the liquid. Since Kishi clearly teaches that having the thermally conductive element improve the timing and increased efficiency of vaporizing the liquid, it would have been obvious to combine the teaching of Kishi to enable one of ordinary skill to further improve the vaporization in a low heating temperature vaporizer as well as in a high heating temperature. Gamell also clearly shows the thermally conductive elements (35-38) that are provided to enhance the liquid heating, and it would have been obvious to combine with such thermally conductive elements in the liquid boiling as well as liquid vaporization since such elements provides increased thermal transmission.

With respect to claim 8, since Kishi and Gamell teach the thermal elements be made of any good thermal conductive materials, it allows one of ordinary skill in the art to use aluminum or other suitable materials that are known to provide a good thermal conductivity.

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With respect to claim 25, Kishi and Gamell show the thermal elements having different shapes yet are used for the same purpose of increasing thermal conductivity. This shows the shapes can be arbitrary to serve its purpose.

With respect to Sloan, the applicant the smooth surface in Sloan is not in face “smooth” to accept a coating thereto. This argument is not deemed persuasive since Sloan clearly discloses that the surface is smooth as shown in Figures 1 and 12 to improve the coating thereon (see column 2, lines 54-55).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y. Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sang Y Paik
Primary Examiner
Art Unit 3742

syp